

WHAT IS CLAIMED IS:

1. A method of fabricating an electronics device comprising:
forming a semiconductor film comprising silicon and crystallized by the action of a metal for promoting crystallization of silicon;
forming a film comprising XV group element in contact with said semiconductor film;
irradiating an infrared light to said semiconductor film to getter said metal from said semiconductor film into said film comprising XV group element;
patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the infrared light; and
forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands.
2. A method according to claim 1 wherein said infrared light is emitted by a lamp.
3. A method according to claim 1 wherein said infrared light is emitted by a xenon lamp.
4. A method according to claim 1 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.
5. A method according to claim 1 wherein one element selected from the group consisting of P, As and Sb is used as said XV group element.
6. A method according to claim 1 wherein said electronics device is an EL display.
7. A method according to claim 1 wherein said electronics device is a portable intelligent terminal, a head-mount display, a car navigation system,

a cellular telephone, a portable video camera or a front projector.

8. A method of fabricating an electronics device comprising:
 - forming a semiconductor film comprising silicon and crystallized by the action of a metal for promoting crystallization of silicon;
 - forming a mask for exposing a part of said semiconductor film;
 - forming a film comprising XV group element so as to cover said mask and the exposed part of said semiconductor film;
 - irradiating an infrared light to said semiconductor film to getter said metal from said semiconductor film into said film comprising XV group element;
 - patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the infrared light; and
 - forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands.
9. A method according to claim 8 wherein said infrared light is emitted by a lamp.
10. A method according to claim 8 wherein said infrared light is emitted by a xenon lamp.
11. A method according to claim 8 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.
12. A method according to claim 8 wherein one element selected from the group consisting of P, As and Sb is used as said XV group element.
13. A method according to claim 8 wherein said electronics device is an EL display.
14. A method according to claim 8 wherein said electronics device is

a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

15. A method of fabricating an electronics device comprising:
forming an amorphous semiconductor film comprising silicon and crystallized by the action of a metal for promoting crystallization of silicon;
forming a mask for exposing a part of said semiconductor film;
forming a gettering film comprising an amorphous silicon so as to cover said mask and the exposed part of said semiconductor film;
irradiating an infrared light to said semiconductor film to getter said metal from said semiconductor film into said gettering film;
patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the infrared light; and
forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands.

16. A method according to claim 15 wherein said infrared light is emitted by a lamp.

17. A method according to claim 15 wherein said infrared light is emitted by a xenon lamp.

18. A method according to claim 15 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.

19. A method according to claim 15 wherein one element selected from the group consisting of P, As and Sb is used as said XV group element.

20. A method according to claim 15 wherein said electronics device is an EL display.

21. A method according to claim 15 wherein said electronics device

is a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

22. A method of fabricating an electronics device comprising:

providing a semiconductor film comprising silicon with a metal for promoting crystallization of silicon;

crystallizing said semiconductor film provided with said metal into a crystalline semiconductor film;

forming a film comprising a gettering element over said crystalline semiconductor film;

gettering said metal from said crystalline semiconductor film into said film comprising the gettering element by irradiation of an infrared light;

patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the infrared light; and

forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands.

23. A method of fabricating an electronics device comprising:

providing a semiconductor film comprising silicon with a metal for promoting crystallization of silicon;

crystallizing said semiconductor film provided with said metal into a crystalline semiconductor film;

forming a film comprising a gettering element over said crystalline semiconductor film;

gettering said metal from said crystalline semiconductor film into said film comprising the gettering element by irradiation of an infrared light;

patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the infrared light; and

forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands,

wherein said gettering is conducted in an atmosphere comprising nitrogen.

24. A method of fabricating an electronics device comprising:
 providing a semiconductor film comprising silicon with a metal for promoting crystallization of silicon;
 crystallizing said semiconductor film provided with said metal into a crystalline semiconductor film;
 forming a film comprising a gettering element over said crystalline semiconductor film;
 heating said film comprising the gettering element formed over said crystalline semiconductor film to getter said metal from said crystalline semiconductor film into said film comprising the gettering element;
 patterning said semiconductor film to form at least first and second semiconductor islands after the heating; and
 forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands,
 wherein said heating is conducted in an atmosphere comprising nitrogen.

25. A method of fabricating an electronics device comprising:
 providing a semiconductor film comprising silicon with a metal for promoting crystallization of silicon;
 crystallizing said semiconductor film provided with said metal into a crystalline semiconductor film;
 forming a film comprising a gettering element over said crystalline semiconductor film;
 gettering said metal from said crystalline semiconductor film into said film comprising the gettering element by irradiation of a light;
 patterning said semiconductor film to form at least first and second semiconductor islands after the irradiation of the light; and
 forming at least one CMOS device including at least an n-channel thin film transistor and a p-channel thin film transistor, using said at least first and second semiconductor islands.

26. A method according to claim 24 wherein said heating is conducted by a heating furnace of a resistively heating type.

27. A method according to claim 22 further comprising forming a mask for exposing a part of said semiconductor film wherein said film comprising the gettering element is provided over said mask and the exposed part of said semiconductor film during said gettering.

28. A method according to claim 23 further comprising forming a mask for exposing a part of said semiconductor film wherein said film comprising the gettering element is provided over said mask and the exposed part of said semiconductor film during said gettering.

29. A method according to claim 24 further comprising forming a mask for exposing a part of said semiconductor film wherein said film comprising the gettering element is provided over said mask and the exposed part of said semiconductor film during said heating.

30. A method according to claim 25 further comprising forming a mask for exposing a part of said semiconductor film wherein said film comprising the gettering element is provided over said mask and the exposed part of said semiconductor film during said gettering.

31. A method according to claim 22 wherein said infrared light is emitted by a xenon lamp.

32. A method according to claim 23 wherein said infrared light is emitted by a xenon lamp.

33. A method according to claim 22 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.

34. A method according to claim 23 wherein said metal for

promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.

35. A method according to claim 24 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.

36. A method according to claim 25 wherein said metal for promoting crystallization of silicon is one or more elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Au, Ge, Pb and In.

37. A method according to claim 22 wherein said electronics device is an EL display.

38. A method according to claim 23 wherein said electronics device is an EL display.

39. A method according to claim 24 wherein said electronics device is an EL display.

40. A method according to claim 25 wherein said electronics device is an EL display.

41. A method according to claim 22 wherein said electronics device is a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

42. A method according to claim 23 wherein said electronics device is a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

43. A method according to claim 24 wherein said electronics device is a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

44. A method according to claim 25 wherein said electronics device is a portable intelligent terminal, a head-mount display, a car navigation system, a cellular telephone, a portable video camera or a front projector.

45. A method according to claim 1, wherein a CPU comprises said CMOS circuit.

46. A method according to claim 8, wherein a CPU comprises said CMOS circuit.

47. A method according to claim 15, wherein a CPU comprises said CMOS circuit.

48. A method according to claim 22, wherein a CPU comprises said CMOS circuit.

49. A method according to claim 23, wherein a CPU comprises said CMOS circuit.

50. A method according to claim 24, wherein a CPU comprises said CMOS circuit.

51. A method according to claim 25, wherein a CPU comprises said CMOS circuit.